



AVIT
AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY



VINAYAKA MISSION'S
RESEARCH FOUNDATION
(Deemed to be University under section 3 of the UGC Act 1956)



Accredited by NAAC



Approved by AICTE

DEPARTMENT OF MECHANICAL ENGINEERING
INDIAN INSTITUTE OF METALS (IIM) –KALPAKKAM CHAPTER &
INSTITUTION'S INNOVATION COUNCIL (IIC)

Report – Webinar on “Nanomaterials and its Future Aspirations in Engineering”

18th May 2021

Resource person: Dr.S. Imran Hussain,
Senior Research Fellow,
Department of Applied Science & Technology,
AC Tech Campus,
Anna University, Chennai.

Participants: 97

Department of Mechanical Engineering in association with Indian institute of metals (IIM) Kalpakkam chapter & Institutions Innovation Cell(IIC) organised a Webinar on the topic “**Nanomaterials and its Future Aspirations in Engineering** ” on 18th May 2021.

The topics covered in Webinar

- Introduction and origin of nanomaterials.
- Types of nanomaterials based on size and properties
- Synthesis and characterisation of nanomaterials
- Various applications of nanomaterials in engineering field.
- Research undergoing on nanomaterials.
- Significance of nanomaterials.

Webinar Outcome

- Students understood the importance and different types of nanomaterials.
- Preparation of nanomaterials.
- Application of nanomaterials in research and industries.
- Importance of nanomaterials in engineering field.

The Webinar was coordinated by Mr.A.Senthilkumar, Assistant professor Grade-II.Prof L.Prabhu VP (Administration) and HOD Mechanical department given the presidential address. The chief guest introduction was given by Mr.A.Senthilkumar, Assistant Professor Grade-II department of mechanical engineering.

Microsoft Teams interface showing a meeting in progress. The main screen displays a large orange circle with the letters "IS" inside. The bottom toolbar shows various icons for communication and sharing. The right sidebar lists participants, including SENTHIL KUMAR A (Organizer) and several guests.

Microsoft Teams

You're recording You are recording this meeting. Be sure to let everyone know that they are being recorded. [Privacy policy](#) **Dismiss**

People

Invite someone

Share invite

Currently in this meeting (98)

- SENTHIL KUMAR A (Organizer)
- Abhijith sukesan 344195550... (Guest)
- bince 3441853511 (Guest)
- JINU SAJI (3442055514) (Guest)
- sam jebaz 3441710527 (Guest)
- shuhaib vkp 3442055516 (Guest)
- 3441910523 MD JAFAR ALA... (Guest)

Imran Hussain S (Guest)

11:52 AM 5/18/2021

Microsoft Teams interface showing a meeting in progress. The main screen displays a presentation slide titled "What is a Nanomaterials/Nanoparticles?". The slide content includes sections on Origin, Chemical composition, Aggregation state, Shape/structure, Dispersed in, and Surface modification. The bottom toolbar shows various icons for communication and sharing. The right sidebar lists participants, including SENTHIL KUMAR A (Organizer) and several guests.

Microsoft Teams

You're recording You are recording this meeting. Be sure to let everyone know that they are being recorded. [Privacy policy](#) **Dismiss**

What is a Nanomaterials/Nanoparticles?

Origin

- Natural
- Unintentionally released
- Manufactured

Chemical composition

- Metals/metal oxides
- Polymers, carbon
- Semiconductors
- Biomolecules
- Compounds...

Aggregation state

- Single particles
- Aggregates
- Agglomerates

Shape/structure

- Spheres
- Tubes

Nanocrystals

- Quantum Dots
- Quantum Wires
- Quantum Wells
- Quantum Rods

Dispersed in

- Gases (aerosols)
- Liquids (gels, fluids)
- Solids (matrix materials)

Surface modification

- Untreated (as obtained in production process)
- Coated (e.g. conjugates, polymer films)

People

Invite someone

Share invite

Currently in this meeting (95)

- SENTHIL KUMAR A (Organizer)
- Abhijith sukesan 344195550... (Guest)
- bince 3441853511 (Guest)
- JINU SAJI (3442055514) (Guest)
- sam jebaz 3441710527 (Guest)
- shuhaib vkp 3442055516 (Guest)

Imran Hussain S (Guest)

11:55 AM 5/18/2021

WhatsApp (5) Meeting | Microsoft Teams

teams.microsoft.com/_/#/pre-join-calling/19:meeting_ODFIMzUwMTEtNGU2NC00ZTU4LTk0MWU0tNzExOTkzMzZmM2Ez@thread.v2

Apps

Microsoft Teams

Search

You're recording You are recording this meeting. Be sure to let everyone know that they are being recorded. [Privacy policy](#) Dismiss

People

Invite someone

[Share invite](#)

Currently in this meeting (64) Mute all

- SA** SENTHIL KUMAR A
Organizer Mute
- iranianbu (Guest)
Guest On hold
- Abhijith sukesan 3441955...
Guest On hold
- bince 3441853511 (Guest)
Guest Mute
- JINU SAJI (3442055514) ...
Guest On hold
- shuhaib vkp 3442055516 (G...
Guest Mute

Others invited (1)

Invite others from conversation (1)

How small is one nanometer ?

Richard Feynman

10⁷ meter

10⁻⁸

0.1 meter

10⁻⁸

10⁻⁹ meter

1 nm

Fullerene or Bucky ball, C₆₀

Ratio

Earth / Football = Football / Fullerene

How big is "Nano" ?

Unmute

23:11

Imran Hussain S (Guest)

Slide 3 of 49 U2 English (India)

Windows taskbar: 12:46 PM 5/18/2021